AMENDMENT UNDER 37 C.F.R. § 1.111 Attorney Docket No.: Q66262

U.S. Application No.: 09/955,125

**AMENDMENTS TO THE CLAIMS** 

This listing of claims will replace all prior versions and listings of claims in the

application:

**LISTING OF CLAIMS:** 

1. (currently amended): A moving image reproduction system comprising:

means for acquiring a scanning line value from a range of scanning lines being scanned on

of a display; and

means for adjusting a timing for a display changeover specification based on the scanning

line value.

2. (previously presented): The system defined in Claim 1, further comprising:

a frame buffer including a plurality of buffers;

a storage for storing compressed image data encoded in an image compression encoding

scheme;

a video decoder for reading out compressed image data from said storage, decoding said

compressed image data every one frame, and storing decoded image data into said frame buffer;

an image storage buffer switch for switching between said plurality of buffers every time

the compressed image data for one frame is decoded and controlling so as to always store a

previously decoded image and a currently decoded image into said frame buffer; and

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a display controller for switching between said plurality of buffers, to be displayed during a next vertical blanking period, after reception of said display changeover specification and displaying image data on said display,

wherein the means for acquiring the scanning line value comprises a timing adjuster.

- 3. (previously presented): The system defined in Claim 2, wherein said timing adjuster acquires a current scanning line from said display controller.
  - 4. (currently amended): A moving image reproduction system comprising:
  - a frame buffer including a plurality of buffers;

a storage that stores compressed image data encoded in an image compression encoding scheme:

a video decoder that reads the compressed image data from said storage, and decodes said compressed image data every one frame, and stores decoded image data into said frame buffer;

an image storage buffer switch that switches between said plurality of buffers every time the compressed image data for one frame is decoded and controls so as to store a previously decoded image frame and a currently decoded image frame into said plurality of buffers;

a display controller that switches between said plurality of buffers to be displayed during a next vertical blanking period after reception of a display changeover specification; and

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a timing adjuster that acquires a scanning line value <u>from a range of scanning lines being</u>

<u>scanned on from said display controller and adjusts a timing with which said display changeover</u>

specification is issued in accordance with said scanning line value.

5. (previously presented): The system defined in Claim 4, wherein said timing adjuster

acquires a scanning line currently being drawn by said display, from said display controller, and

adjusts the timing with which said display changeover specification is issued, in accordance with

the current scan line.

6. (currently amended): A moving image reproduction system comprising:

means for acquiring, when one frame is divided into two fields for displaying, a display

scanning line value from a range of scanning lines being scanned on a display and adjusting a

timing of a display changeover specification to display one of said two fields based on said

display scanning line value.

7. (previously presented): The system defined in Claim 6, further comprising:

a frame buffer including a plurality of buffers;

a storage for storing compressed image data encoded in an image compression encoding

scheme;

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a video decoder for reading out compressed image data from said storage, decoding said compressed image data every one frame, and storing decoded image data into said frame buffer;

an image storage buffer switch for switching between said plurality of buffers every time the compressed image data for one frame is decoded and controlling so as to always store a previously decoded image and a currently decoded image into said frame buffer;

a display controller for switching between said plurality of buffers, to be displayed during a next vertical blanking period, after reception of said display changeover specification and displaying image data on said display; and

wherein said means for acquiring a display scanning line value comprises a timing adjuster.

8. (previously presented): The system defined in Claim 7, wherein said timing adjuster acquires a current scanning line from said display controller and adjusts the timing with which said display changeover specification is issued, in accordance with the current scan line.

- 9. (currently amended): A moving image reproduction system comprising:
- a frame buffer including a plurality of buffers;

an image storage buffer switch that switches between said plurality of buffers every time image data for a frame is decoded and controls so as to store a previous image frame and a current image frame into said plurality of buffers;

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a display controller that switches between said plurality of buffers to be displayed during a

next vertical blanking period after reception of a display changeover specification; and

a timing adjuster that acquires a scanning line value from a range of scanning lines being

scanned on a display and adjusts a timing with which said display changeover specification is

issued in accordance with said scanning line value.

10. (currently amended): The system defined in Claim 9, wherein said timing adjuster

acquires a scanning line currently being drawn by said display, from said display controller and

adjusts the timing based on the scanning line currently being drawn.

11. (currently amended): A moving image reproduction system comprising:

means for acquiring a scanning line value from a range of scanning lines being scanned on a

display; and

means for smoothly reproducing moving image data by adjusting a timing with which a

display changeover specification is issued, based on a scanning line value.

12. (previously presented): The system defined in Claim 11, further comprising:

a frame buffer including a plurality of buffers;

a storage for storing compressed image data encoded in an image compression encoding

scheme:

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a video decoder for reading out compressed image data from said storage, decoding said compressed image data every one frame, and storing decoded image data into said frame buffer;

an image storage buffer switch for switching between said plurality of buffers every time the compressed image data for one frame is decoded and controlling so as to always store a previously decoded image and a currently decoded image into said frame buffer;

a display controller for switching between said plurality of buffers, to be displayed during a next vertical blanking period, after reception of said display changeover specification and displaying image data on said display; and

wherein the means for smoothly reproducing moving image data comprises a timing adjuster that adjusts the timing with which said display changeover specification is issued, in accordance with said scanning line value.

13. (previously presented): The system defined in Claim 12, wherein said timing adjuster acquires a current scanning line from said display controller and adjusts the timing with which said display changeover specification is issued, in accordance with the current scan line value.

14. (currently amended): A moving image reproduction system comprising:

a frame buffer including a plurality of buffers;

means for storing image data in said plurality of buffers image data;

means for switching between said plurality of buffers for storage;

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means for controlling a display to switch between said plurality of buffers to be displayed during a next vertical blanking period after reception of a display changeover specification; means for acquiring a scanning line currently being drawn by a display from a range of scanning lines being scanned on the display; and

means for adjusting a timing with which said display changeover specification is issued in accordance with said scanning line value.

15. (previously presented): The system defined in Claim 14, wherein said means for storing image data stores each frame in one of said plurality of buffers.

16. (currently amended): A moving image reproduction system comprising:

means for acquiring a scanning line value of from a range of scanning lines being scanned

on a display; and

means for adjusting a display timing of a half field to be displayed, with said scanning line value.

17. (previously presented): The system defined in Claim 16, further comprising:

a frame buffer including a plurality of buffers;

a storage for storing compressed image data encoded in an image compression encoding scheme;

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a video decoder for reading out compressed image data from said storage, decoding said compressed image data every one frame, and storing decoded image data into said frame buffer;

an image storage buffer switch for switching between said plurality of buffers every time the compressed image data for one frame is decoded and controlling so as to always store a previously decoded image and a currently decoded image into said frame buffer;

a display controller for switching between said plurality of buffers, to be displayed during a next vertical blanking period, after reception of said display changeover specification and displaying image data on said display; and

wherein said means for acquiring said scanning line value and said means for adjusting said display timing comprises a timing adjuster for acquiring said scanning line from said display controller and adjusting said display timing with which said display changeover specification is issued, in accordance with said scanning line value.

18. (previously presented): The system defined in Claim 17, wherein said timing adjuster acquires a current scanning line from said display controller and adjusts saiddisplay timing with which said display changeover specification is issued, in accordance with the current scan line.

19. (currently amended): A moving image reproduction system comprising:

a display controller that switches between frames of image data to be displayed during a next vertical blanking period after reception of a display changeover specification; and

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a timing adjuster that acquiries a scanning line value <u>from a range of scanning lines being</u>

<u>scanned on a display</u> from said display controller and adjusting a timing with which said display changeover specification is issued, in accordance with said scanning line value.

20. (previously presented): The system defined in Claim 19, wherein said timing adjuster acquires a current scanning line value being drawn by said display, from said display controller, and adjusts the timing with which said display changeover specification is issued, in accordance with the current scan line value.

21. (currently amended): A moving image reproduction method comprising:

acquiring a display scanning line value from a range of scanning lines being scanned on a

display; and

adjusting a timing of a display changeover specification based on said display scanning line value.

22. (previously presented): The method defined in Claim 21, further comprising:

storing compressed image data in a memory;

reading out said compressed image data from said memory, decoding said compressed image data every one frame;

storing decoded image data into one buffer of a plurality of buffers;

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switching said storing between said plurality of buffers every time compressed image data for one frame is decoded and controlling so as to always store a previously decoded image and a currently decoded image into said plurality of buffers; and

switching between said plurality of buffers to be displayed during a next vertical blanking period after reception of said display changeover specification and displaying image data on said display,

wherein acquiring a display scanning line value comprises acquiring a current scanning line from a display controller and adjusting the timing of said display changeover specification is adjusted based on said display scanning line value.

23. (previously presented): The system defined in Claim 22, wherein:

said current scanning line is acquired from said display controller, said timing is adjusted by means of said timing adjuster; and

said plurality of buffers are switched by means of said display controller.

24. (previously presented): The method defined in Claim 21, further comprising:

storing decoded image data of one frame into one buffer of a plurality of buffers;

switching said storing among said plurality of buffers every time compressed image data for

one frame is decoded and controlling so as to always store a previously decoded image and a

currently decoded image into said plurality of buffers; and

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switching between said plurality of buffers to be displayed during a next vertical blanking period after reception of said display changeover specification and displaying image data on said display, wherein acquiring a display scanning line is acquiring a scanning line currently being drawn by a display from said display controller and adjusting the timing with which said display changeover specification is issued in accordance with said display scanning line value.

25. (previously presented): The system defined in Claim 24, wherein:

said scanning line currently being drawn by said display is drawn from a display controller,

and

said plural buffers are switched by means of a display controller.

26. (currently amended): A moving image reproduction method comprising:

acquiring, when one frame is divided into two half fields for displaying, a display scanning

line value from a range of scanning lines being scanned on a display;

adjusting a timing of a display changeover specification based on the display scanning line

value; and

switching between the two half fields to be displayed after receiving the display field

specification.

27. (previously presented): The method defined in Claim 26, further comprising:

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storing compressed image data in a memory;

reading out said compressed image data from said memory, decoding said compressed

image data every one frame;

storing each half field of decoded image data into one buffer of a plurality of buffers; and

switching said storing between said plurality of buffers every time compressed image data

for one frame is decoded and controlling so as to always store a previously decoded image and a

currently decoded image into said plurality of buffers;

wherein acquiring a display scanning line value is acquiring a current scanning line from a

display controller and adjusting the timing of said display changeover specification is adjusted

based on said display scanning line value.

28. (previously presented): The system defined in Claim 27, further comprising:

said current scanning line is acquired from said display controller, said timing is adjusted by

means of said timing adjuster; and

said plurality of buffers are switched by means of said display controller.

29. (previously presented): The system defined in Claim 26, further comprising:

storing decoded image data of one frame into one buffer of a plurality of buffers;

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switching said storing among said plurality of buffers every time compressed image data for one frame is decoded and controlling so as to always store a previously decoded image and a currently decoded image into said plurality of buffers; and

switching between said plurality of buffers to be displayed during a next vertical blanking period after reception of said display changeover specification and displaying image data on said display, wherein acquiring a display scanning line is acquiring a scanning line currently being drawn by a display from said display controller and adjusting the timing with which said display changeover specification is issued in accordance with said display scanning line value.

30. (previously presented): The system defined in Claim 29, further comprising: said scanning line currently being drawn by said display is drawn from a display controller, and

said plural buffers are switched by means of a display controller.

31. (currently amended): A moving image reproduction method, the method comprising the steps of:

adjusting the timing with which display changeover specification is issued, based on a current scanning line value from a range of scanning lines being scanned on a display; and smoothly reproducing moving image data.

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32. (previously presented): The method defined in Claim 31, further comprising:

storing compressed image data in a memory;

reading out said compressed image data from said memory, decoding said compressed

image data every one frame;

storing decoded image data into one buffer of a plurality of buffers;

switching said storing between said plurality of buffers every time compressed image data

for one frame is decoded and controlling so as to always store a previously decoded image and a

currently decoded image into said plurality of buffers; and

switching between said plurality of buffers to be displayed during a next vertical blanking

period after reception of said display changeover specification and displaying image data on said

display,

wherein acquiring a display scanning line value is acquiring a current scanning line from a

display controller and adjusting the timing of said display changeover specification is adjusted

based on said display scanning line value.

33. (previously presented): The system defined in Claim 32, further comprising:

said current scanning line is acquired from said display controller, said timing is adjusted by

means of said timing adjuster; and

said plurality of buffers are switched by means of said display controller.

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34. (previously presented): The system defined in Claim 31, further comprising: storing decoded image data of one frame into one buffer of a plurality of buffers; switching said storing among said plurality of buffers every time compressed image data for one frame is decoded and controlling so as to always store a previously decoded image and a currently decoded image into said plurality of buffers; and

switching between said plurality of buffers to be displayed during a next vertical blanking period after reception of said display changeover specification and displaying image data on said display, wherein acquiring a display scanning line is acquiring a scanning line currently being drawn by a display from said display controller and adjusting the timing with which said display changeover specification is issued in accordance with said display scanning line value.

35. (previously presented): The system defined in Claim 34, further comprising: said scanning line currently being drawn by said display is drawn from a display controller, and

said plural buffers are switched by means of a display controller.

36. (currently amended): A moving image reproduction method comprising:

acquiring a display scanning line value from a range of scanning lines being scanned on a display;

adjusting a display timing of a field to be displayed, in accordance with said display scanning line value.

37. (previously presented): The method defined in Claim 36, further comprising:

storing compressed image data in into a memory;

reading out said compressed image data from said memory, decoding said compressed image data every one field of a plurality of fields comprising a frame;

storing decoded image data of each field nto one buffer of a plurality of buffers;

switching said storing between said plurality of buffers every time compressed image data for one field is decoded and controlling so as to always store a previously decoded image and a currently decoded image into said plurality of buffers; and

switching between said plurality of buffers to be displayed during a next vertical blanking period after reception of said display changeover specification and displaying image data on said display,

wherein acquiring a display scanning line value is acquiring a current scanning line from a display controller and adjusting the timing of said display changeover specification is adjusted based on said display scanning line value.

38. (previously presented): The system defined in Claim 37, wherein:

said current scanning line is acquired from said display controller, said timing is adjusted by means of said timing adjuster; and

said plurality of buffers are switched by means of said display controller.

39. (previously presented): The system defined in Claim 36, further comprising;

storing decoded image data of each field of a plurality of fields that comprise a frame into

one buffer of a plurality of buffers;

switching said storing among said plurality of buffers every time compressed image data for

said each field is decoded and controlling so as to always store a previously decoded image and a

currently decoded image into said plurality of buffers; and

switching between said plurality of buffers to be displayed during a next vertical blanking

period after reception of said display changeover specification and displaying image data on said

display, wherein acquiring a display scanning line is acquiring a scanning line currently being

drawn by a display from said display controller and adjusting the timing with which said display

changeover specification is issued in accordance with said display scanning line value.

40. (previously presented): The system defined in Claim 39, further comprising:

said scanning line currently being drawn by said display is drawn from a display controller,

and

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said plural buffers are switched by means of a display controller.